

REMARKS

Claims 1-24 are pending in the above-identified application. Claim 1 has been amended to correct a typographical error, which is believed to overcome the “informality” objection. No new matter has been added.

CLAIM REJECTIONS UNDER U.S.C. § 102(b)

Claims 1-3, 6-11, and 14-24 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,625,542 to Nelson. Applicant respectfully notes that in order to sustain a rejection under §102(b), each element in the rejected claim must be found, either expressly or inherently, in the cited reference.

Claims 1, 9 and 16 of the present application recite an apparatus, system and method, respectively, for measuring the power of acoustic energy as a function of a displacement of a buoyant body. Nelson does not disclose or suggest an apparatus, system or method for measuring power in such a manner. Instead, Nelson discloses an apparatus for measuring radiation, including acoustic radiation, by force balancing means (See, e.g., col. 2 line 37).

The office action cites col. 1, line 35, of Nelson for the premise that displacement of a buoyant body between the first and second levels is directly related to the power of the acoustic energy transmitted by the transducer (December 11, 2003, office action page 4). However, Nelson specifically discloses

The force balance method for acoustic power measurement takes advantage of the fact that when acoustic energy is absorbed or reflected, a force is exerted upon the absorber or reflector in direct proportion to the power of incident radiation.

(col. 1 line 32-36).

Nowhere does Nelson express the element of displacement itself as a measure of the power of acoustic energy.

Claim 1 of the present application recites an apparatus in which “a displaced volume of the buoyant body as it moves between the first and the second levels [is] proportional to the power of acoustic energy.” Claim 9 similarly recites a system for measuring power in which “displacement of the buoyant body between the first and second levels [is] directly related to the power of the acoustic energy transmitted by the transducer.” Claim 16 similarly includes “measuring displacement of the buoyant body from the first level to the second level to indicate the power of the acoustic energy impinging the surface of the buoyant body.”

Nelson, on the other hand, discloses only a “force balancing means,” (see, e.g., claims 1, 13, and 26), and teaches measuring “the magnitude of the *magnetic force required to hold the float at the zero level* in the presence of acoustic radiation” (col. 6 lines 42-44) (emphasis added).

Applicant respectfully traverses the suggestion that Nelson discloses measuring acoustic energy by measuring displacement. What Nelson does disclose is holding a float at a predetermined height by balancing the forces on the float, both before and after the application of acoustic energy (See, e.g., col. 6 lines 1-54). This teaching is expressed in claim 1 of Nelson, which recites:

“float balancing means including drive means for providing drive signal and means responsive to the drive signal for exerting an attractive balancing force on the float means...to thereby vary the balancing force on the float means, such that when the drive signal is controlled so as to cause the float means to be suspended at a predetermined height, and characteristic of the drive signal provides a measure of the force exerted on the target as a result of the radiation striking the target and therefore the power of the radiation.”

(Nelson, Claim 1)

As such, claims 1, 9, and 16 are believed allowable over Nelson. For at least the same reason that claims 1, 9, and 16 are allowable, claims 2-3, 6-8, 10-11, 14-15, and 17-24, which depend from claims 1, 9, and 16, are also believed allowable over Nelson.


CONCLUSION

Based on the foregoing, all the claims are believed in condition for allowance. If, the Examiner has any questions, please contact the undersigned at the below-listed number.

Respectfully submitted,

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